

REMARKS

Applicants thank the Examiner for participating in the telephone conversation on the 12th of June, 2006 to discuss the status of the claims.

Claims 1-2, 4-5, 6-7 and 9-10 are pending for further examination.

Amendments should be entered

Applicants have amended claims 1, 2, 6 and 7 to incorporate the features of claims 3 and 8 (now canceled). Applicants respectfully request entry of the amendments.

Rejections under 35. U.S.C. §§102-103

In the final Office action, claims 1, 2, 6 and 7 were rejected as anticipated by Tashiro (U.S. Patent No. 5,042,147). Claims 3-5 and 8-10 were rejected as unpatentable over Tashiro in view of Kado et al. (U.S. Patent App. No. 2004/0164385).

Currently amended claims 1-2 and 6-7 recite methods for electroplating coatings on electrodes that are located on the front and back surfaces of a substrate by means of energizing plating wires that are directly and electrically interconnected to the electrodes on the *back* surface of the substrate. Forming the plating wires and electrodes on the back surface of the substrate allows, in some implementations, the plating wires to be cut after molding resin has been applied to the device or after the device has been packaged. If, on the other hand, the plating wires were formed on the front surface, packaging the device or applying molding resin would inhibit access to the plating wires. As a result, forming the plating wires and electrodes on the back surface of the device allows an additional degree of freedom in manufacturing, *i.e.*, the plating wires may be cut prior to or following the packaging of the device.

Furthermore, by forming the plating wires on the back surface of the substrate instead of the front surface, the adhesion of resin to the front surface of the substrate can be improved. This

may be attributed to an increase of interfacial contact between the resin and the front surface of the substrate in areas that otherwise would be occupied by the plating wires.

In contrast, neither the Kado reference nor the Tashiro patent disclose or suggest forming plating wires on the “back surface of a mounting substrate” to connect back face electrodes as recited in independent claims 1-2 and 6-7.

Although the Tashiro patent discloses forming a fine-line pattern 3 for plating, the pattern 3 is formed on the *front* surface of the substrate on which the device elements are fixed (*see* FIG. 1). Similarly, although the Kado patent discloses electrolytic plating (par. 0084) of wiring lines 5, bonding pads 9 and electrode pads 10, the wiring lines 5 are formed on the “*main* surface of the multi-wiring substrate 100” (par. 0083), not on the back surface of substrate 100. Indeed, there is no suggestion, at all, in the Tashiro patent or the Kado patent to form plating wires on the back surface of a substrate in order to connect electrodes that are also on the back surface of the substrate. Furthermore, the Office action has not even provided a *prima facie* case that it would have been obvious to one of ordinary skill in the art to form plating wires on the back face of a mounting substrate to connect back face electrodes. Instead, the Office action alleges only that it would have been obvious to connect the front face electrodes and back face electrodes as taught by the Kado patent. Therefore, it would not have been obvious nor would there have been any motivation for one of ordinary skill in the art to combine the cited references to obtain the subject matter recited in present claims 1-2 and 6-7.

At least for the foregoing reasons, claims 1-2 and 6-7 should be allowed.

Claims 4-5 and 9-10 depend from claims 1-2 and 6-7 and should be allowed for at least the same reason.

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this

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paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

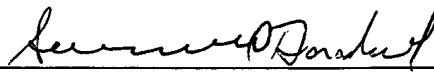
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Enclosed is a check for the Petition for Extension of Time fee. Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

Date: 8/2/06



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